

Educational Supervisors' Strategies in Improving ECCE Principals' Managerial Competence in the Digital Era: A Case Study

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Abstract

This study investigates the strategies educational supervisors employ to enhance the managerial competence of Early Childhood Care and Education (ECCE) principals in the digital era. A qualitative case study was conducted in Bandung City, with 7 educational supervisors as informants. Data were gathered through semi-structured interviews, observations, and document analysis, and thematically analyzed to discern patterns in strategy use, strategy evaluation, and challenges in the digital era. Key findings reveal supervisors' strategies are diverse and situational, including regular training, mentoring, coaching, collaborations, and supervision, all adapted to the digital context. Success is evaluated through data-driven indicators and evaluation processes, highlighting the role of monitoring, needs identification, socialization, and communication. Challenges faced include motivational deficits, resistance to change, and resource constraints. This research contributes to a deeper understanding of supervisory strategies in the digital era, emphasizing the importance of adaptable, context-sensitive approaches in enhancing ECCE principals' managerial competence. It underscores the role of digital fluency in leadership development and offers insights into effective strategies and prevalent challenges within early childhood education.

Keywords: *ECCE; Managerial Competence; Supervisors; Leadership Development Strategies*

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Introduction

Digitalization in the 21st century has transformed various sectors, including education. In Early Childhood Care and Education (ECCE), this shift is pivotal as it shapes the cognitive development of young learners. (Bhavnani et al., 2021; Hasanah et al., 2023; Iis et al., 2022; Shahrudin et al., 2020). The importance of managerial competency among administrators in the field of ECCE is becoming increasingly significant as the digital age continues to advance (Musa et al., 2020, 2022). This is due not just to their responsibility of integrating technology into the educational framework, but also to their pivotal role in shaping a digitally native generation (Munifah & Purwaningrum, 2022; Navaridas-Nalda et al., 2020). However, despite this recognized importance, there is a lack of comprehensive understanding of the strategies educational supervisors employ to enhance ECCE principals' managerial competencies in the digital era.

Historically, managerial competence in the ECCE sector was centered around administrative tasks, interpersonal skills, and curriculum oversight (Azainil et al., 2021; Hanim, 2022). However, with the proliferation of digital tools and platforms, the scope has expanded dramatically. Several studies such as Mollenkopf & Gaskill (2021), Sagita and Khairunnisa (2020), Winarti et.al (2022) have highlighted the growing need for ECCE principals to possess digital literacy, understand the nuances of online safety, and be adept at leveraging technology to enhance learning outcomes.. Managerial competence in the Early Childhood Care and Education (ECCE) sector has long been a topic of academic interest. Traditional managerial skills, as highlighted by Anwar (2018), were predominantly centered around administrative efficiency, curriculum oversight, and fostering positive parent-teacher relationships. posited that ECCE principals, being pivotal to the institution's functioning, required a blend of pedagogical knowledge and administrative role (Musa et al., 2022; Pranita et al., 2019). However, as the educational landscape evolved, especially with the infusion of technology, the parameters of managerial competence began to shift. Recent studies, such as those by Musa et al. (2022), underscore the increasing integration of digital tools in ECCE and the consequent demands on principals to adapt and evolve.

In the contemporary ECCE landscape, managerial competence is multifaceted. According to Abubakar and Sahriana (2022), it encompasses principal's leadership, strategic planning, team building, financial management, and stakeholder engagement. This broad definition underscores the complexity of the role, demanding both depth and breadth in various competencies. The managerial capabilities of the head of an Early Childhood Education (PAUD) institution are manifested in their aptitude to oversee the foundational functions of management, as stipulated in Law No. 137 of 2014 concerning the national educational standards of PAUD. These capabilities encompass: 1)The skill to devise planning for different levels of the PAUD unit/program, 2)The ability to foster the organizational structure of the PAUD unit/program in alignment with necessities, 3) The proficiency in leading teachers and staff to harness human resources optimally, 4) The competency to manage institutional changes and developments toward an efficacious learning organization, 5) The capacity to cultivate a conducive and innovative culture and climate for early childhood learning within the PAUD unit/program, 6) The adeptness to manage teachers and administrative personnel of the PAUD unit/program for optimal utilization of human resources, 7) The capability to administer facilities and infrastructure for optimal utilization, 8) The dexterity in managing relationships between the PAUD unit/program and the community, aiming to garner intellectual support, learning resources, and school financing, 9) The expertise in curriculum development and pedagogical activities in line with national educational objectives, 10) The mastery in managing school finances based on accountable, transparent, and efficient principles, 11) The prowess in overseeing administrative affairs in support of school activities, 12) The skill in managing specialized service units of the PAUD program to support learning activities and student endeavors at school, 13) The capability to govern the information system of the PAUD unit/program in support of program planning and decision-making, 14) The aptitude to leverage advancements in information and communication technology for enhancing learning and management of the PAUD unit/program, 15) The competence to monitor, evaluate, and report the implementation of PAUD unit/program activities through appropriate procedures, as well as planning subsequent actions, 16) The wisdom to amicably resolve internal conflicts.

Several indicators define the managerial abilities of the head of a PAUD, colloquially termed as POAC (Planning, Organizing, Actuating, and Controlling). The managerial prowess of the head of a PAUD encompasses four dimensions. Firstly, school leaders must possess the ability to plan educational activities and programs, devising strategies and streamlining planning processes. Secondly, they should competently organize, delineating roles and responsibilities amongst members and efficiently managing personnel. Thirdly, they ought to proficiently execute or organize activities, which includes fostering effective communication

and crafting policies during the execution phase. Lastly, they must be adept at overseeing, controlling, and directing activities, subsequently undertaking evaluations or assessments of the executed tasks (Abubakar & Sahriana, 2022; Rupnidah & Eliza, 2022).

The managerial competence of ECCE principals has a significant and positive influence on educational services, teacher performance and improve the preschool educational quality (Sukarsih et al., 2023; Widiastuty & Muji Gunarto, 2020). Meaning, as the managerial competence of ECCE principals improves, there is a corresponding enhancement in educational services and teacher performance and also improving the preschool educational quality. Therefore the ECCE principals' managerial competence improvement is a serious effort to be continuously undertaken to achieve high quality early childhood education.

Educational supervisors provide guidance, training, and support to ECCE principals (Triwiyanto, 2015; Utami & Garnika, 2022). They play a key role in enhancing the managerial competencies of principals, especially in the rapidly evolving digital era (Hartono, 2019). Previous researchs found that supervisors consistently work on advancing the managerial competence of school leaders (Rosyidah, 2021). Through both academic and managerial supervision, supervisors mentor school leaders and educators, aiming to fortify their proficiency in improving educational quality (Aceh et al., 2022). Hartati and Yuliejantiningasih (2021) found that The principal's competence and the supervision program by supervisors individually contribute positively to school performance, representing 58.60% and 56.80% respectively. When combined, their influence accounts for a significant 67.60% boost in school outcomes.

ECCE principals are pivotal in shaping the trajectory of early childhood education. Their managerial competence, encompassing a diverse range of skills and knowledge areas, is central to the success of their institutions. While substantial research has been undertaken, areas for further exploration remain, particularly in the context of the digital age and the unique challenges it presents. A noticeable gap exists in existing research regarding the influence of supervisors in enhancing the managerial competence of ECCE principals during this digital shift. Much of the current literature focuses on the difficulties and approaches encountered by principals, with minimal attention given to the supervisory strategies that can facilitate this transition.

Given these observations, the primary research question this study seeks to answer is: "What strategies do educational supervisors employ to enhance the managerial competence of ECCE principals in the digital era, particularly in [specific locations]?" The novelty of this research lies in its focus on the supervisory perspective, a previously neglected domain, and its comprehensive analysis aimed at uncovering practical knowledge to inform supervisory methods. Unlike prior studies, which primarily concentrate on the challenges faced by principals, this study delves into the strategies utilized by supervisors to augment managerial competence in the digital age. This research is superior in its approach, as it provides a granular understanding of supervisory strategies in the context of digitalization, particularly in [specific locations], where this aspect has not been extensively studied. The objective of this research is to ensure that principals in the field of ECCE not only possess digital proficiency but also the skills necessary to effectively utilize technology to promote the overall development of high-quality early childhood education.

Methodology

The qualitative research paradigm was employed in this study, utilizing a case study method to gain an in-depth understanding of supervisors' strategies in enhancing the managerial competence of ECCE principals in the digital era. The case study approach, with its focus on in-depth exploration within real-life contexts, was particularly suited for this inquiry. Participants were selected from four regions: Kota Bandung, Kabupaten Bandung, Cimahi, and Bandung Barat. These regions were chosen for their diverse socio-economic backgrounds and varying levels of technological integration in ECCE, offering a

comprehensive view of the phenomenon. Seven ECCE supervisors, recognized for their influential roles in their respective regions, were the primary participants. Their diverse experiences were anticipated to provide a rich array of insights into the strategies employed across different ECCE settings.

Data collection involved semi-structured interviews, observational visits, and document analysis. The interview guide was central to the data collection process. To ensure the scientific rigor of the interviews, the guide underwent a rigorous validation process. It was reviewed and validated by three experts with advanced degrees in the field, including a Professor, a Doctor, and a Master. Their feedback was incorporated to refine the questions, ensuring their relevance and clarity. The interviews, designed to probe the strategies, challenges, and perceived effectiveness of the supervisors' approaches, were conducted with each participant. Observational visits to selected ECCE institutions allowed for direct observation of managerial practices, guided by a standardized observation protocol. Pertinent documents, such as training modules and policy documents, were also analyzed to understand the formal strategies in place.

Data analysis followed a thematic approach. Interviews were transcribed verbatim, and initial coding was performed based on the study's guiding questions and emergent patterns. These codes were then grouped into overarching themes reflecting the core strategies of the supervisors. The final interpretation linked these themes with existing literature to discern their broader significance and implications. Ethical considerations were of utmost importance. Participants were informed about the study's objectives, procedures, risks, and benefits through an informed consent form. Assurances regarding confidentiality were made, with pseudonyms used in the final report to protect identities.

Result and Discussions

Enhancing Managerial Competence: Diverse Strategies and Situational Approaches

From the empirical data it can be inferred that in the quest to enhance the managerial competence of Early Childhood Care and Education (ECCE) principals, supervisors employ a plethora of strategies. These strategies are not monolithic; rather, they are characterized by their diversity and situational adaptability. As echoed by multiple informants, "Each supervisor has varied strategies and employs a situational approach based on circumstances and needs." This recognition of the need for bespoke strategies, tailored to the unique demands of each context, is a testament to the nuanced understanding that supervisors have of the ECCE landscape. The strategies articulated by the informants include a combination of regular training sessions, mentoring and coaching, collaboration with partner organizations, and routine supervision. One informant highlighted the importance of regular supervision, providing training, study tours, mentoring, and coaching as part of their strategy arsenal. Another informant spoke of the value of workshops, In-House Training (IHT), and group work through learning communities. This collaborative approach to learning and development underscores the significance of communal learning experiences, which are pivotal in enhancing managerial competence. In terms of specific strategies employed, one informant delineated their approach as follows: "The strategies to enhance the managerial competence of ECCE principals include monitoring and evaluation, reflection and focus group discussions, Delphi methods, and workshops." This multifaceted approach, grounded in both reflective practices and structured learning experiences, illustrates the depth and breadth of strategies deployed to cultivate leadership competencies among ECCE principals.

From planning, organizing, supervising, and controlling, to the implementation of the Delphi method and focus group discussions, the strategies employed are as varied as the individuals who implement them. This diversity in strategies and the emphasis on situational adaptability reflect the complex nature of leadership roles in ECCE. They underscore the need for flexible and context-sensitive leadership development interventions, which are informed by the unique challenges and opportunities present in various educational settings. The

insights from the seven informants reveal a rich tapestry of strategies utilized by supervisors to bolster the managerial competence of ECCE principals.

The findings shed light on the strategies employed by educational supervisors to enhance the managerial competence of ECCE principals, emphasizing the variability and situational adaptability of these approaches. This diversity in strategies reflects the complexity of the role and the need for flexible leadership development interventions. This recognition aligns with contemporary research, which emphasizes the importance of context-sensitive leadership development (Fatien Diochon & Nizet, 2019; Lang, 2019). This empirical data also reinforces the adaptability of strategies, noting that "setiap pengawas memiliki strategi yang bervariasi dan menggunakan pendekatan situasional sesuai keadaan dan kebutuhan" (each supervisor has varied strategies and employs a situational approach based on circumstances and needs). This situational approach resonates with current research, which acknowledges that effective leadership development requires tailoring interventions to specific contexts and individuals.

Collaboration with external organizations and regular supervision also reflect research-informed practices in leadership development. The interviews highlight the significance of **workshops, IHT (In House Training), and group work through learning communities** as key strategies for enhancing managerial competence. These collaborative learning experiences align with contemporary research that underscores the value of communities of practice and collaborative learning in educational leadership development (Noman et al., 2016; Oc, 2018).

One interviewee specifically outlines the strategies employed, stating, "Strategi untuk meningkatkan kompetensi manajerial kepala paud yaitu dengan melakukan : 1. Monitoring dan evaluasi 2. Refleksi dan focus group discussion 3. Metode delfi 4. Workshop" (The strategies to enhance the managerial competence of ECCE principals include monitoring and evaluation, reflection and focus group discussions, Delphi methods, and workshops). These strategies reflect a research-informed approach, emphasizing data-driven decision-making, reflection, collaborative discussions, and structured workshops in leadership development. In summary, the interview findings reveal a diverse array of strategies used by supervisors to enhance the managerial competence of ECCE principals. These strategies emphasize situational adaptability, ongoing professional development, collaborative learning, and research-informed practices. The alignment of these strategies with contemporary research underscores the importance of evidence-based approaches in shaping effective ECCE leadership and ultimately contributing to high-quality early childhood education.

Several strategies mentioned in the interviews, including **regular training, mentoring, coaching, and collaboration with partner organizations**, mirror research-informed practices in educational leadership (Figure 1). Current studies emphasize the significance of continuous professional development, mentorship, and coaching in enhancing leadership capacity (Damore & Rieckhoff, 2019; Wong & Ng, 2021). Collaborative efforts with external organizations also align with research that recognizes the value of networking and partnerships in leadership development. The emphasis on **collaborative learning experiences** such as **workshops, In-House Training (IHT), and group work through learning communities** is in harmony with contemporary research. Research highlights the importance of communities of practice and collaborative learning in leadership development. These approaches foster a sense of shared responsibility and encourage knowledge sharing among ECCE principals (Bickmore et al., 2021; Vijayadevar et al., 2019).



Figure 1. Supervisors' strategies in Improving Principals' Managerial Competence
Source: empirical data 2023

The supervisors used effective communication, needs assessment, and collaborative processes to introduce new strategies or approaches to ECCE principals. These insights align with contemporary research in educational leadership and the significance of strategic change management. One common approach mentioned by interviewees is the use of **monitoring and evaluation results**. This is reflected in responses such as "melalui hasil monitor evaluasi paud lembaga binaan" (through the results of monitoring and evaluation of the supported ECCE institutions). This approach resonates with current research, which emphasizes the importance of data-driven decision-making in educational leadership (Edwards & Ogle, 2021; Fernandes, 2022; Nnorom, et al., 2023). Monitoring and evaluation provide valuable insights that can inform the need for change and improvement.

Another approach highlighted is the importance of **needs identification and socialization**. Respondents mention "melakukan identifikasi kebutuhan dan mengsosialisasikannya serta melaksanakannya" (identifying needs, socializing them, and implementing changes). This approach aligns with research that emphasizes the need for a clear understanding of the needs and challenges within an educational context before introducing new strategies (Noor & Nurhayati, 2023; Nurhayati et al., 2021). Effective communication and socialization of these needs are crucial steps in the change process. **Socialization** emerges as a key step in introducing new strategies. Respondents emphasize the importance of **pre-sensitization** or socialization before implementing changes. This aligns with research highlighting the significance of stakeholder buy-in and awareness-building in change initiatives. Successful change management often requires clear communication and engagement with all relevant parties (Amir, 2022; Ehinmilorin, 2021; Vergheze, 2021).

In-house training is also identified as a valuable approach in introducing new strategies to improve ECCE principals' managerial competence. **In-House Training (IHT) related to new teaching strategies and approaches** is mentioned. This aligns with research that underscores the importance of professional development and capacity building in educational leadership (Musa et al., 2020, 2022; Nurhayati, 2018; Şenol, 2020; Toporovsky, 2021). Training and skill development are essential components of preparing ECCE principals to implement new strategies effectively. Additionally, **communication and collaboration** are emphasized in the introduction of new strategies. This includes identifying individuals involved in school

development, fostering communication with various stakeholders, and effectively conveying the proposed strategies. These aspects align with research highlighting the importance of collaboration and transparent communication in leadership and change management (Ehinmilorin, 2021; Firdaus & Handriyono, 2018). The findings provide valuable insights into the approaches used to introduce new strategies or approaches to ECCE principals. These approaches emphasize the significance of data-driven decision-making, needs assessment, socialization, training, and effective communication. These insights align with current research on change management and educational leadership, underscoring the importance of evidence-based practices in promoting positive educational outcomes.

Assessing Strategy Success: Indicators and Evaluation

The empirical findings provide valuable insights into how educational supervisors assess the success or effectiveness of their strategies in improving the managerial competence of ECCE principals. Assessing the success and efficacy of strategies employed to enhance the managerial competence of Early Childhood Care and Education (ECCE) principals is a critical component of the supervisory role. The informants provide a window into the diverse metrics and evaluation processes they utilize to gauge the effectiveness of their strategies. One informant assesses the success of their strategies by "looking at the results of monitoring from indicators of managerial competence achievement." Another informant reflects on the outcomes of monitoring and evaluation (MONEV) at the supported institutions, stating, "We examine the results of MONEV to see if there is an improvement based on the indicators of managerial competence achievement." This approach underscores the value of systematic assessment in leadership development, providing insights into the impact of strategies on competence development. The effectiveness of strategies is also gauged through direct monitoring and evaluation of the ECCE principals. As one informant puts it, "We assess through the results of monitoring and evaluation of ECCE principals." This highlights the importance of regular assessment in ensuring continuous improvement in leadership capacity. One informant shares their evaluation process, noting, "When conducting school supervision, it is evident that the school has improved and developed from previous supervisions, and the principal involves teachers in actively enhancing their competencies." This observation reflects a holistic evaluation of strategies, considering not only individual competence but also the broader impact on school quality and teacher engagement. The outcomes of In-House Training (IHT) are also used as a barometer for success. As mentioned by an informant, "We look at the results of IHT to see if there is an improvement in the managerial competence of ECCE principals and if there are better changes in their institution management." This approach resonates with research emphasizing the importance of professional development in leadership effectiveness. Routine MONEV activities are cited as another evaluation method. One informant states, "We examine the results of MONEV at the supported institutions to see if there is an improvement after the evaluation by the supervising guardian." This methodical evaluation ensures that strategies lead to positive outcomes. Finally, an informant assesses the success of strategies based on the qualitative improvement in educational outcomes, stating, "At the end of the teaching and learning activities, we can enhance the quality of early childhood education, for example, increasing literacy and numeracy among students with the correct methods. When supervised, the results show improvement with not many notes for follow-up." This reflects a commitment to not only improving managerial competence but also ensuring that these improvements translate into enhanced educational experiences for students. The insights from the seven informants reveal a comprehensive and data-driven approach to assessing the success of strategies aimed at enhancing the managerial competence of ECCE principals. These approaches, grounded in monitoring, evaluation, and the examination of both direct and indirect impacts, align with contemporary research in educational leadership, emphasizing the importance of evidence-based practices and continuous improvement in leadership development.

The evaluation process involves a thorough examination of the outcomes of monitoring and evaluation activities conducted within supported ECCE institutions. This aligns with research that underscores the importance of a systematic evaluation process to measure the success of leadership development strategies (Munawarah et al., 2021). The assessment of whether there is improvement in managerial competence based on monitored indicators is a key aspect of this evaluation. Respondents also highlight the role of **monitoring and evaluation** in assessing the success of strategies. They mention "melalui hasil monitoring dan evaluasi terhadap kepala PAUD" (through monitoring and evaluation results of ECCE principals). This aligns with current research that emphasizes the value of systematic assessment in leadership development. Regular assessment of managerial competence is vital in ensuring continuous improvement (Hanim, 2022; Tri Satyawati & EkoSiswoyo, 2018; Triningsih & Muhyadi, 2019).

The interviews reveal that the effectiveness of strategies is also evaluated based on the outcomes of **In-House Training (IHT)**. Respondents inquire whether there is an improvement in the managerial competence of ECCE principals and whether there are positive changes in institutional management following IHT sessions. This approach is in line with research highlighting the importance of professional development and capacity building in leadership effectiveness (Bukhari et al., 2021; Lazenby et al., 2020; Rodriguez et al., 2021). Additionally, the success of strategies is assessed through **routine monitoring and evaluation (MONEV) activities** conducted within supported institutions. This includes examining whether there is improvement after MONEV assessments conducted by educational supervisors. This approach aligns with research highlighting the importance of systematic evaluation as a means to ensure that strategies lead to positive outcomes (Triwiyanto, 2015). One respondent notes that improved supervision results in better school performance and increased involvement of teachers in enhancing their competence. This reflects the **holistic evaluation** of strategies, considering not only individual competence but also the broader impact on school quality and teacher engagement. This aligns with research that emphasizes the interconnectedness of leadership, teacher development, and student outcomes (Naz & Rashid, 2021; Nurdianti & Nurdin, 2020; Soares, 2020). The empirical findings highlight the importance of data-driven indicators, monitoring and evaluation, and systematic assessments in gauging the success of strategies aimed at improving the managerial competence of ECCE principals. These insights align with contemporary research in educational leadership, emphasizing evidence-based practices and continuous improvement in leadership development.

Navigating Challenges in Enhancing Managerial Competence

In the journey to enhance the managerial competence of Early Childhood Care and Education (ECCE) principals, educational supervisors confront a myriad of challenges. The insights from seven informants elucidate these obstacles, providing a vivid picture of the hurdles encountered in leadership development. One informant expresses the challenge of lackluster motivation among some principals, stating, "There are still those who are not motivated to improve the performance of the school principal." Motivation is a crucial factor in professional development, and its absence presents a significant hurdle. Another informant addresses the resistance to change, noting, "There are those who are still unwilling to participate in school principal performance assessments." Overcoming this reluctance is a common challenge in the realm of educational leadership and is essential for successful development initiatives. The dual nature of challenges, both internal and external, is highlighted by an informant who simply states, "The challenges come from both internal and external sources." This underscores the multifaceted complexity faced by supervisors in enhancing leadership competencies. One informant shares their personal experience, "The challenge I face is when dealing with school principals who do not want to change their mindset and do not strive to adapt to the developments of the times." This reflects the difficulty

in shifting entrenched mindsets and encouraging adaptive leadership. Resource-related constraints are a common thread among the challenges. An informant mentions, "Cost, time, place often become obstacles, as well as differing understandings from the heads of the ECCE themselves." These factors underscore the resource-intensive nature of leadership development initiatives. The lack of uniform participation in professional development programs is another hurdle. As one informant reveals, "There are those who have not participated in PKKS (School Principal Leadership Program) in their sub-district." This indicates disparities in access to leadership development opportunities. Finally, an informant discusses the constraints posed by limited human resources and understanding, particularly when dealing with curriculum changes, "There are limitations in human resources and understanding when curricula change frequently." Adaptability to curricular changes is essential for effective leadership. In summary, the challenges in enhancing the managerial competence of ECCE principals are diverse and multifaceted, ranging from motivation and resistance to change to resource constraints and the need for adaptability. These insights from the seven informants align with contemporary research in educational leadership, highlighting the complex nature of leadership development challenges and underscoring the need for tailored strategies to overcome them.

The above empirical findings shed light on the myriad challenges encountered by educational supervisors in their efforts to improve the managerial competence of ECCE principals. The challenges stem from both internal and external factors, underscoring the complexity of leadership development in early childhood education. One common challenge highlighted in the finding is the **lack of motivation** among some ECCE principals. This is evident in responses such as "Masih Ada yang belum termotivasi untuk meningkatkan kinerja kepala sekolah" (Some principals still lack motivation in their performance). Motivation is a critical driver of professional development, and the presence of disengaged principals poses a significant challenge. This aligns with research that emphasizes the role of motivation in leadership growth (Ansori, 2021; Çetinkaya & ARASTAMAN, 2023; Sony Eko Adisaputro, 2022). **Resistance to change** emerges as another notable challenge. Some principals are reluctant to undergo performance assessments, as mentioned in responses like "ada yang belum mau ikut penilaian kinerja kepala sekolah" (some are unwilling to participate in performance assessments). Resistance to change is a common barrier in educational leadership, and addressing this resistance is essential for successful development initiatives (Bodnar & Horishna, 2021; Dana et al., 2021; Reinders, 2019).

Respondents also point to the **dual nature of challenges**, stemming from both internal and external sources. These dual challenges underscore the complexity of the ECCE leadership landscape. Internal challenges may include mindset resistance and differing understandings among ECCE principals, while external challenges encompass factors such as limited resources, time constraints, and varying participation levels in district-level programs like **PKKS (Program Kepemimpinan Kepala Sekolah)**. The findings reveal instances where ECCE principals have not participated in district-level programs like PKKS in their respective regions. This reflects a **lack of uniformity** in engagement and opportunities for professional development, which can hinder the equitable growth of managerial competence. Research underscores the importance of providing equal access to leadership development opportunities to ensure equitable outcomes (Alvarez & Alvarez, 2018; Honig & Donaldson Walsh, 2019; Poekert et al., 2020). **Resource constraints**, including limitations in human resources and understanding, are also identified as challenges. These constraints are particularly relevant when dealing with curriculum changes, as mentioned in responses. The adaptability of ECCE principals to changing curricula is crucial for effective leadership. This is on line with current researchs that emphasize the importance of resource allocation and support in leadership development (Fatimah & Syahrani, 2022; Qanay et al., 2021; Souza & Leung, 2020). The findings cohesively illustrate the challenges faced by educational supervisors when striving to enhance the managerial competence of ECCE principals. These

challenges encompass motivation, resistance to change, the dual nature of obstacles, disparities in program participation, and resource limitations. These insights align with contemporary research in educational leadership, highlighting the multifaceted nature of leadership development challenges and the need for tailored strategies to address them.

Conclusion

In addressing the research objective, this study unveils novel, contextually adaptive strategies employed by educational supervisors to enhance ECCE principals' managerial competence in the digital era. It enriches the discourse by focusing on the supervisory perspective, often overlooked in existing literature. Findings emphasize the need for flexible, personalized leadership development approaches in diverse socio-economic and technological contexts. Despite its contributions, the study acknowledges limitations, including a small sample size and reliance on self-reported data. Future research should explore the long-term effects of these strategies and incorporate principals' perspectives to deepen understanding. .

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